

WHAT IS CLAIMED IS:

1. A configuration data model for relating configuration objects of a computer network to other configuration objects, and for expressing the configuration objects of a computer network in a form accessible by other network components, comprising:

device role IP post entities that represent software roles to implemented on specific network device IP hosts;

virtual IPs entities that represent virtual IP addresses associated with devices on a network;

status entities that represent the status of various software and hardware elements of a computer network; and

device entities that represent specific devices on a network.

2. The configuration data model of Claim 1, wherein said device entities may comprise one or more conduits entities that provide a conduit through a network firewall.

3. The configuration data model of Claim 1, further comprising:
device role configuration entities that specify the configuration of various software roles to be implemented on devices connected to a network.

4. The configuration data model of Claim 3, further comprising device role configuration values entities that define specific types of device role configurations that may be contained by the device role configurations entities.

5 5. The configuration data model of Claim 1, further comprising role configurations entities that define the configuration associated with software roles of devices on a network.

6. A configuration data model for relating information regarding the configuration of various software, network, and hardware entities on a computer network, comprising:

10 role configurations entities, device role configuration entities, and device role IP host entities that define the configuration of various software roles of devices and applications used on a computer network;

status entities for monitoring the status of various software and hardware elements of the computer network; and

15 virtual IPs entities that relate to virtual IP addresses to be used by devices connected to a network.

7. The configuration data model of Claim 6, wherein said virtual IPs entities relate to device entities representing specific devices connected to a

network, and act as a buffer between the network and the devices represented by the device entities.

8. A computer readable set of instructions residing on a computer-readable medium that produces a software data model comprising:

- 5 device role IP host entities;
virtual IPs entities;
role configurations entities;
device role configuration entities; and
status entities;
- 10 wherein said device role IP host entities, role configurations entities, and device role configuration entities each relate to software roles that comprise multiple software packages to be installed on various devices connected to a network;
- 15 wherein said virtual IPs entities relate to device entities representing specific devices, and provide virtual IP addresses for the devices represented by the device entities to the various other devices using the computer network; and
- wherein said status entities monitor the status of hardware devices and software applications used on the network.

9. A configuration data model for characterizing the configuration of all software and hardware elements connected to a network, comprising:

a plurality of devices entities;

a plurality of conduits entities;

5 a plurality of device role IP host entities;

a plurality of interface IP type entities;

a plurality of virtual IPs entities;

a plurality of services entities;

a plurality of role configurations entities;

10 a plurality of device role configuration entities;

a plurality of status entities;

a plurality of component type entities; and

a plurality of device role configuration values entities.

10. The data model of Claim 9, wherein said plurality of configuration
15 entities further comprises a plurality of manufacturing model entities.

11. The data model of Claim 9, wherein said plurality of configuration entities further comprises a plurality of configuration entities further comprises a plurality of component objects entities.

12. The data model of Claim 9, further comprising a plurality of device roles history entities.

13. The data model of Claim 9, wherein said conduits entities represent communications portholes across a firewall via which two devices may
5 communicate across the firewall, wherein said conduits entities relate to said plurality of devices entities by a many-to-one relationship.

14. The data model of Claim 9, wherein said device role IP host entities relates an IP host address to a device role, and relates to:
said interface IP type entities by a many-to-one relationship;
10 said plurality of network entities by a many-to-one relationship; and
a plurality of software entities by a many-to-one relationship.

15. The data model of Claim 9, wherein said interface IP type entities represent allowed types of IP addresses within the network, and wherein said interface IP type entities relate to said device role IP host entities in a one-to-many
15 relationship.

16. The data model of Claim 9, wherein said virtual IPs entities represent virtual IP addresses that are used by a router to route traffic for a single IP address to multiple computers, and wherein said virtual IPs entities relates to:

a plurality of monitoring entities by a one-to-many relationship;

5 said plurality of devices entities by a many-to-one relationship; and

a plurality of network entities by a many-to-one relationship.

17. The data model of Claim 9, wherein said services entities represent services to be performed by a series of applications accessible by a network server, and wherein said services entities relate to a plurality of software entities by an optional one-to-many relationship.

18. The data model of Claim 9, wherein said role configurations entities represent configurations related to software roles, and wherein said role configurations relate to:

15 a plurality of software entities by a many-to-one relationship; and

said component type entities by a many-to-one relationship.

19. The data model of Claim 9, wherein said device role configuration entities represent configurations of software roles for specific devices, and wherein said device role configuration entities relate to:

said device role configuration values entities by a one-to-many relationship;
and
a plurality of software entities by a many-to-one relationship.

20. The data model of Claim 9, wherein said status entities represent
5 status conditions of various hardware and software objects, and wherein said status
entities relate to:
a plurality of software entities by at least one one-to-many relationship; and
said plurality of devices entities by a one-to-many relationship.

21. The data model of Claim 9, wherein said component type entities
10 represent types of components used with the data model, and wherein said
component type entities relate to said role configurations entities with a
one-to-many relationship.

22. The data model of Claim 9, wherein said device role configuration
values entities represent configuration values associated with software roles of a
15 specific device, wherein said device role configuration values entities relate to
device role configuration entities by a many-to-one relationship.